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Vision 2035: Public Health Surveillance in India

Why in News

Recently, the **NITI Aayog** has released a white paper, **"Vision 2035: Public Health Surveillance in India"** which is envisaged to serve as a vision document t**o propel Public Health Surveillance** (PHS) in India and establish India as a global leader in the area.

> A **white paper** is an **informational document,** usually issued by a company or not-for-profit organization, **to promote or highlight the features of a solution, product, or service.**

Key Points

- **Background:**
    - **NITI Aayog's mandate is to provide strategic directions** to the various sectors of the Indian economy. In line with this mandate, the Health Vertical released a set of four working-papers compiled in a volume entitled **'Health Systems for New India: Building Blocks-Potential Pathways to Reforms'** during November 2019.
    - This white paper is a **continuation of the work on strengthening the health systems.**
- **About the White Paper:**
    - This paper is a **joint effort** of **Health Vertical, NITI Aayog,** and **Institute for Global Public Health,** University of Manitoba, Canada with **contributions from technical experts** from the Government of India, States, and International agencies.
    - It **lays out India's vision 2035 for PHS** through the integration of the **three-tiered (primary, secondary and tertiary) public health system into Ayushman Bharat.**
    - It contributes by **suggesting mainstreaming of surveillance** by making individual electronic health records the basis for surveillance.

- **Main Features:**
    - Strengthen non-communicable disease prevention, detection, control and to reduce out of pocket expenses of individuals and families.
    - It **builds on initiatives such as the Integrated Health Information Platform** of the **Integrated Disease Surveillance Program.**
    - **Aligns with the citizen-centricity** highlighted in the **National Health Policy 2017** and the **National Digital Health Blueprint.**
            It encourages the use of mobile and digital platforms and point of care devices and diagnostics for amalgamation of data capture and analyses.
    - It **highlights the importance of capitalizing on initiatives** such as the **Clinical Establishments (Registration and Regulation) Act 2010** to enhance private sector involvement in surveillance.
    - It **points out the importance of a cohesive and coordinated effort of apex institutions** including the **National Centre for Disease Control**, the **Indian Council of Medical Research** (ICMR), and others.
- **Vision:**
    - To make India's PHS system **more responsive and predictive to enhance preparedness** for action at all levels.
    - To make it **more citizen-friendly to ensure individual privacy and confidentiality,** enabled with a client feedback mechanism.
    - To **improve data-sharing mechanisms** between Centre and states for better disease detection, prevention, and control.
    - To **provide regional and global leadership** in managing events that constitute a public health emergency of international concern.

Public Health Surveillance

- PHS is an important public health function that **cuts across the three-tiered public health system and care provided.** Surveillance is **'Information for Action'** and is an **essential action for disease detection, prevention, and control.**

- **Challenges:**
  - **Data Collection and Sharing:** Various **verticals to collect data work differently and in separation** with no mechanism for data sharing.

    There is **no single system** where surveillance data generated by target specific populations like the **National AIDS Control Programme**, **National TB Elimination Programme**, etc. **could be understood in its entirety.**
  - **Poor Quality Data:** The data generated is of **low quality** and the **research or use of data** to answer critical health policy questions of the country **has been very limited.**
  - **Limited Synchronisation:** There is the limited ability of programme implementation structures to work in synchrony with research organisations and vice versa.
  - **Missing Linkages:** India invests significant resources in the registration of deaths. However, various **reviews have not been able to link the causes of mortality with morbidities.** There was still **no proper linking to find common ground** between the causes of diseases and deaths.
  - **Lack of Human Resources:** Human resources also form a formidable challenge. As many as **42% vacancies existed** at state and district level surveillance systems.

    Most of the positions of the Central Surveillance Unit at the Centre are **filled either by deputation or on contract** and the individuals are **loaded with multiple other responsibilities**.
  - **Lack of Epidemic Intelligence:** India **does not have an adequate number** of public health **professionals having expertise** in the field.

    'Epidemic intelligence' can be defined as all the activities related to early identification of potential health threats, their verification, assessment and investigation in order to recommend public health measures to control them.
  - **Under-developed Systems:** A **non-communicable diseases** (NCDs) **surveillance system hardly exists** in India and other factors like integration of surveillance for NCD risk factors, surveillance of injury and accidents, air pollution and its effects, etc, are **yet to be included in surveillance.**
  - **Lack of Occupational Health Surveillance:** This type of surveillance **addresses issues like lead toxicity, silicosis, etc.** Whatever data has been generated hardly became part of India's PHS system.
  - **Emerging Challenges:** Growing **antimicrobial resistance** (AMR), new infectious diseases or new strains of existing diseases and increased rate of NCDs.

- **Suggestions:**
  - **Creation of a skilled and strong health workforce** dedicated to surveillance activities.
  - **Integration** of NCDs, reproductive and child health, occupational and environmental health and injury into PHS.
  - **Merger of morbidity data** from health information systems.
  - **Amalgamation** of plant, animal, and environmental **surveillance in a One-Health approach** that also includes surveillance for antimicrobial resistance and predictive capability for pandemics.
  - **Strengthening of laboratory capacity** with new diagnostic technologies including molecular diagnostics, genotyping, and phenotyping.
  - **Establishment of a governance framework** that is inclusive of political, policy, technical, and managerial leadership at the national and state level.
  - **Enhancement of surveillance** of NCDs, citizen-centric and community-based surveillance and use of point of care devices and self-care diagnostics.
  - **Prioritization of diseases** that can be targeted for elimination as a public health problem, regularly.
  - **Improvement of core support functions** and system attributes for surveillance at all levels.
  - **Establishment of mechanisms to streamline data sharing,** capture, analysis, and dissemination for action.
    - These could **include the use of situation-aware real-time signals** from social media, mobile sensor networks, and participatory surveillance systems for event-based epidemic intelligence.
  - **Encouragement of innovations** at every step-in surveillance activity.

Way Forward

- Despite all of the challenges, India has made good progress in improving the surveillance system and implementation of this vision can thrust India to be a global/regional leader in PHS.
- The building blocks for this vision are an interdependent federated system of governance between the Centre and states, a new data-sharing mechanism that involves the use of new analytics, health informatics, and data science including innovative ways of disseminating **'information for action'.**

Source: PIB

Database of Migrants

The Government has decided to create a **database of migrant workers,** including workers in the **informal economy.**

As per the Census, India had **45.6 crore migrants in 2011** (38% of the population) compared to **31.5 crore migrants in 2001** (31% of the population).

Key Points

- **Background:**
    - The **Inter-State Migrant Workmen Act, 1979,** required all establishments who hired inter-state migrants to be **registered,** as well as all **contractors who recruited** these workers to be **licensed.**
    - Proper implementation of this law would have ensured **information on inter-state migrants** to aid the state machinery in its relief efforts.
        - However, no such **detailed records were maintained,** and information on the number of migrants was unavailable to both **central and state governments.**
    - A comprehensive database for migrant and other unorganised sector workers is seen as **necessary in the wake of the Covid-19 pandemic.**
- **Recent Government Initiatives to help returning migrants find livelihood:**
    - **The Ministry of Skill Development and Entrepreneurship** (MSDE) has launched **'Atma Nirbhar Skilled Employee Employer Mapping** (ASEEM)' portal to help skilled people find sustainable livelihood opportunities.
        - **Database of labour migrants** in Indian states and overseas citizens, who returned to India under the **Vande Bharat Mission** and filled **SWADES Skill Card,** has been **integrated** with the **ASEEM portal.**
    - The **National Disaster Management Authority (NDMA)** has developed an online dashboard called **'National Migrant Information System (NMIS)'**
        - The online portal (NMIS) would maintain a **central repository of migrant workers** and help in speedy inter-state communication to facilitate the smooth movement of migrant workers to their native places.
    - The Maharashtra Government has launched a portal named **'Mahajobs' for job seekers and employers,** owing to the economic situation caused by Covid-19 pandemic.
    - **Atma Nirbhar Uttar Pradesh Rozgar Abhiyan:**
        - The scheme seeks to **promote local entrepreneurship and create partnership** with industrial associations to provide **employment opportunities to 1.25 crore migrant workers** who lost their jobs during the **Covid-19 pandemic.** The state government has already mapped the skill of the workers so that they can be provided employment as per their expertise.
        - The **migrant commission announced by the Uttar Pradesh government will map skills of workers** who have returned to the state, providing data to employment exchanges.

- **Causes for Migration:**
  - Migration is a global phenomenon caused not only by economic factors but many other factors like social, political, cultural, environmental, health, education are included under the broader classification of Push and Pull factors of migration:

Push-factors Countries of origin	Migrants	Pull-factors Countries of destination
⇒ Population growth, young age structure ⇒ Inadequate educational institutions, medicare and social security	**Demographic factors and social infrastructure**	⇒ Stable population, population decline, demographic ageing ⇒ Welfare state benefits, educational institutions, medicare, social security
⇒ Unemployment, low wages ⇒ Poverty, low consumption and living standard	**Economic factors**	⇒ Labour demand, high wages ⇒ Welfare, high consumption and living standard
⇒ Dictatorships, shadow democracy, bad governance, political upheaval ⇒ Conflict, (civil) war, terrorism, human rights violation, oppression of minorities	**Political factors**	⇒ Democracy, rule of law, pluralism, political stability ⇒ Peace, security, protection of human and civil rights, protection of minorities
⇒ Ecologic disaster, desertification, lack of natural resources, water shortage, soil erosion, lack of environmental policy	**Ecological factors**	⇒ Better environment, environmental policy, protection of natural resources and environmental protection
⇒ Decisions of the family or the clan ⇒ Information flows, media,	**Migrant flows and migrant stocks**	⇒ Diaspora, ethnic community ⇒ Information flows, media, transferred picture of

  - **Push Factor:** Push factors are those that compel a person, due to different reasons, to leave a place of origin (out-migration) and migrate to some other place.
  - **Pull Factor:** Pull factors indicate the factors which attract migrants (in-migration) to an area (destination).
- **Patterns of Migration:**
  - Internal migrant flows can be **classified on the basis of origin and destination:**
    - Rural-rural, rural-urban, urban-rural and urban-urban.
  - Another way to classify migration is:
    - Intra-state, and inter-state.
- As of 2011, **Uttar Pradesh and Bihar** were the largest **source** of inter-state migrants while **Maharashtra and Delhi** were the largest receiver states. Around 83 lakh residents of Uttar Pradesh and 63 lakh residents of Bihar had moved either temporarily or permanently to other states.

- **Plan for the Database:**
  - The plan aims to get data from existing databases of government schemes such as **MGNREGA**, and the **one nation-one ration card** to create a **unique registration** of migrant workers.
  - Details of those working in unorganised sectors not covered by such schemes, are likely to be **added separately.**
  - **Aadhaar platform** would be used to address the problem of duplicity and ghost cards.
- **Issues:**
  - **No collection of data of intra-state migrants:**
    The scope of the database needs to be expanded to include both sets of migrants.
  - **Discrepancy in definition of employed:**
    - The extent of migration in the country depends on the definition of employed. For example, the definitions used by the **National Sample Survey and the Census** are different.
    - A comprehensive definition needs to be worked out for employment.
  - **Technological Constraints:**
    Merging the **existing databases** at the state level may be problematic as the **softwares and structures of data storage** may be different.
    Aadhaar-linked databases may have security concerns.
  - **Lack of clarity over registration of workers:**
    - No **procedure of registration** yet mentioned, whether the process to register will be voluntary or by a government agency.
    - **Track over migration flows** etc has not been discussed.
  - **Portability Issue:**
    Governments will also have to examine the issue of portability of benefits across states.

Inter-State Migrant Workmen Act, 1979

- The Act seeks to regulate the employment of inter-State migrants and their conditions of service.
- It is applicable to every establishment that employs **five or more migrant workmen from other States;** or if it had **employed five or more such workmen** on any day in the **preceding 12 months.**
- It is also **applicable to contractors** who employed a similar number of inter-State workmen.
- It envisages a system of **registration of such establishments.** The principal employer is prohibited from employing inter-State workmen **without a certificate of registration** from the relevant authority.
- The law also lays down that **every contractor who recruits workmen** from one State for deployment in another State **should obtain a licence to do so.**

Child Marriage and Pandemic

Why in News

According to a report published by **ChildLine India** the pandemic and the subsequent lockdown have proved to be **new drivers of child marriages** in rural Madhya Pradesh.

Key Points

- **Important Findings by ChildLine India:**
  - Madhya Pradesh recorded **46 child marriages** between **November 2019 and March 2020,** a figure that jumped to **117 in just three months of the lockdown from April to June 2020.**
  - Across India **5,214 child marriages** were reported in the first **four months of lockdown between March to June.**
- **Causes:**
  - **Age Factor:**
    - Some parents consider the age period of **15-18 as unproductive, especially for girls,** so they start finding a match for their child during this age period.
    - **Underaged girls are more prone to child marriage than boys.**
      The **Right To Education Act** makes education free and compulsory up to the age of 14 only. **Research show**s that after a girl is taken out of school at the age of 15, there is a **strong possibility of her getting married at an early age.**
  - **Insecurity:**
    Law and Order are still not able to provide a **secure environment for the girls in adolescent age,** so some parents get their girl child married at a young age.
  - **Lack of Education:**
    - Girls are often seen with limited economic roles. Women's work is confined to the household and is not valued.
    - In addition, there is the **problem of dowry.** Despite the fact that dowry has been prohibited for five decades **(Dowry Prohibition Act, 1961),** it is still common for parents of girls in India to give gifts to the groom and /or his family either in cash or kind.
  - **Causes for Increase during Pandemic:**
    - **Economic pressures** due to the pandemic have pushed poor parents to marry off girls early.
    - With **no schools, safety of children, particularly girls,** was a major reason for **increase in violence against children and child marriages.**

- **Impact:**
  - Child Marriage is associated with **higher rates of Sexually Transmitted Infections including HIV.**
  - **Delays Demographic Dividend:**
    - **Child Marriage contributes to larger families** and in turn, population growth. This delays demographic dividend that would have come from reduced fertility and investment in education.
  - Children married at a young age **do not understand the responsibilities of marriage.** This results in a lack of understanding among family members. Hence, **disturbs the institution of the family.**
- **Impact on Child Bride:**
  - **Violation of rights:**
    - Married at a young age, girls get deprived of their **basic rights.** Some of the basic rights as mentioned in the Convention on the Rights of Child include **Right to Education, Right to Rest and Leisure, Right to Protection from Mental or Physical Abuse including Rape and Sexual Exploitation.**
  - **Poor Socialization:**
    - Child Brides often have to **give up their education** due to household responsibilities. It is said that if the women of a house are educated, she, in turn, educates her family. But if she is uneducated, she **loses on to the opportunity to educate her own children.**
  - **Disempowerment:**
    - Since child brides are not able to complete their education, they **remain dependent and underpowered** which acts as a big **hurdle** towards achieving **gender equality.**
  - **Health Issues:**
    - Devastating repercussions on the **health of Child Brides,** who are neither physically nor emotionally ready to become wives and mothers.
    - According to research, the **risk of maternal mortality** is highest for adolescent girls in the 15 years of age.
    - Also, they have **23% greater risk of disease** onset including heart attack, diabetes, cancer, and stroke. They also face a high risk of **psychiatric disorders.**

- **Government Initiatives to Prevent Child Marriages:**
    - The **Child Marriage Restraint Act of 1929** restricts the practice of child marriage.
    - **The Special Marriage Act, 1954** and the **Prohibition of Child Marriage Act, 2006** prescribe **18 and 21 years as the minimum age of consent for marriage** for women and men respectively.
    - The **Prohibition of Child Marriage Act, 2006** was enacted to address and fix the shortcomings of the Child Marriage Restraint Act.
    - **Union Ministry for Women and Child Development** set up a **committee** to examine matters pertaining to age of motherhood, imperatives of lowering **Maternal Mortality Ratio** and the improvement of nutritional levels among women. **The Committee is headed by Jaya Jaitely.**
        The Committee was proposed in the **Union Budget 2020-21.**
- Prevention of Child Marriage is a part of **SDG 5** which deals with **gender equality and empowerment of all women and girls.**

Childline India foundation

- It is a **non-government organisation** (NGO) in India that operates a telephone helpline called Childline, for children in distress.
- It was India's first **24-hour, toll free, phone outreach** service for children
- CHILDLINE works for the protection of rights of all children aged **0 to 18.** Their special focus is on all children in need of care and protection, especially the more vulnerable sections.

Source:TH

Reducing Emissions from Coal-Based Power Sector

Why in News

Recently, in a webinar by think-tank **Centre for Science and Environment (CSE),** experts discussed the measures to **reduce carbon dioxide (CO_2)** footprints of **India's coal-based power sector.**

- **Centre for Science and Environment (CSE)** is a public interest research and advocacy organisation based in New Delhi.
- CSE researches into, lobbies for and communicates **the urgency of development that is both sustainable and equitable.**

Key Points

Power Generation in India:
- India mainly uses **three types** of thermal power plants- **Coal, Gas and Liquid-fuel based.**
- The electricity generated by these plants adds up to **62.2%** of the total power generation in the country.

Fuel	MW	% of Total
Total Thermal	2,31,456	62.2%
Coal	1,99,595	53.7%
Lignite	6,360	1.7%
Gas	24,992	6.7%
Diesel	510	0.1%
Hydro (Renewable)	45,699	12.3%
Nuclear	6,780	1.8%
RES* (MNRE)	88,042	23.7%
Total	**371,977**	

- **Emissions from coal-based Power Sector:**
  - India's coal-based thermal power sector is one of the **country's biggest emitters of CO_2.**
  - It emits **1.1 giga-tonne of CO_2 every year;** this is **2.5%** of global **GreenHouse Gas (GHG)** emissions, one-third of India's **GHG** emissions, and around **50%** of India's fuel-related CO_2 emissions.

- **Policies Needed to Reduce Emissions:**
  - **Improving fleet technology and efficiency, renovating and modernising:**
    - India has one of the youngest coal-based thermal plants in the world, with around **64% of the capacity (132 GW) less than a decade old.**
    - The government's renovation and modernisation policies need to play a key role in maintaining the efficiency of this fleet.
  - **Planning for the Old Capacity:**
    - In 2015, over **34 GW capacity** in India was more than 25 years old, and **60% of it was highly inefficient.**
    - **Increasing India's renewable electricity generation** can help further the cause to accelerate the retirement of old and inefficient plants.
  - **Propagating Biomass Co-firing:**
    - **Biomass co-firing** stands for adding biomass as a partial substitute fuel in high efficiency coal boilers.
      - **Coal and biomass are combusted together in boilers** that have been designed to burn coal. For this purpose, the existing coal power plant has to be partly reconstructed and retrofitted.
      - Co-firing is an option to **convert biomass to electricity, in an efficient and clean way, and to reduce GHG emissions of the power plant.**
    - Biomass co-firing is a globally accepted **cost-effective method** for **decarbonising** a coal fleet.
      - <u>**Decarbonising**</u> means reducing carbon intensity, i.e. reducing the emissions per unit of electricity generated (often given in grams of carbon dioxide per kilowatt-hour).
    - India is a country where biomass is usually burnt on the field which reflects apathy towards resolving the problem of clean coal using a very simple solution that is readily available.
  - **Investing in <u>Carbon Capture and Storage</u> (CCS):**
    - Globally, carbon capture and storage has struggled to pick up and India's prospects appear to be dim at least until 2030.
    - Businesses should invest in indigenous research and development to bring down the costs of CCS.
  - **Coal Beneficiation:**
    - <u>**Coal Beneficiation**</u> is a process by which **the quality of raw coal is improved** by either reducing the extraneous matter that gets extracted along with the mined coal or reducing the associated ash or both.

- **Other Initiatives to Reduce Emissions:**
    - India shifted from **Bharat Stage-IV (BS-IV) to Bharat Stage-VI (BS-VI)** emission norms from 1st April 2020 which was earlier to be adopted by 2024.
    - It has distributed more **than 360 million LED bulbs under the UJALA scheme**, which has led to energy saving of about 47 billion units of electricity per year and reduction of 38 million tonnes of CO_2 per year.
    - **International Solar Alliance**: It is an Indian initiative conceived as a **coalition of solar-resource-rich countries** (which lie either completely or partly between the tropic of Cancer and the tropic of Capricorn) to address their special energy needs.
    - **The National Action Plan on Climate Change (NAPCC)** was launched in 2008 which **aims at creating awareness among the representatives of the public,** different agencies of the government, scientists, industry and the communities on the threat posed by climate change and the steps to counter it.

Way Forward

- **Renewable capacity** addition alone cannot be enough; ambitious plans to **reduce GHG emissions in the coal sector are equally needed** to meaningfully tackle climate change.
- We need an **energy transformation** through which we would **realise the co-benefits of local and global emission reduction.** We also need the **right to energy for all, as energy poverty and inequity is not acceptable.**
- Diversified **energy mix is what India needs to focus on,** no doubt solar and wind have a lot of potential, Hydrogen would also be a game changer in Indian energy transition space.

Source:DTE

Negotiations on UK's Brexit Deadline

Why in News

Recently, the **UK** and the **European Union** (EU) have **agreed to continue Brexit trade deal talks** and **abandon the 31st December deadline,** end of the transition period for a **post-Brexit trade agreement.**

Under the **Withdrawal agreement** between the UK and the EU, a transition period of 11 months was finalised until 31st December 2020.

- During this period, the UK continues to **participate in the EU's Customs Union** and in the **Single Market.**
- The transition period makes sure that there is **not a sudden shock but a degree of continuity that allows both parties to secure an orderly Brexit,** minimising disruption for the citizens, businesses, public administrations, as well as for the international partners.

Key Points

- In the negotiations on the post-Brexit trade agreement, significant differences remain on **three critical issues: level playing field, governance** and **fisheries.**
- **Level Playing Field:**
  - What measures there should be to ensure a "level playing field" for businesses between the UK and the EU and the role of the European Court of Justice.
  - Deadlock over **the EU's demands for a mechanism that would make tariff-free trade with the both sides maintaining fair competition** for business through a regulatory "level playing field".
  - **The UK rejected "evolution mechanism" or "equivalence mechanism".** This mechanism **intends to deter the UK from undercutting the EU** if the bloc decides to raise its standards in areas such as environmental rules or workers' rights.
  - The UK **could not accept a deal that left it bound to EU rules** in the future.
- **Governance:**
  - The UK **wants to strike out a deal through bilateral talks with EU leaders.**
  - However, the EU had already proposed that the **mechanism should be administered by a joint committee of EU-UK officials,** with the arbitration in case of disputes and the **negotiations must be conducted** on behalf of all of the bloc's 27 member states **by the committee.**
- **Fisheries:**
  - The key focus is over **access to UK waters by the EU's fishing fleets.**
  - According to reports, **France is leading the charge in this area** and demanding access rights for at least 10 years, a demand the UK is unwilling to give in to, claiming it **fails to meet its take back control criteria** for leaving the bloc.

- **Possibilities After Failed Negotiations:**
    - If a deal is not reached before the December-end deadline, the "most likely" outcome remains a **no-deal Brexit** on **World Trade Organization** (WTO) terms on 1st January.
        - In a no-deal situation, **the UK would immediately leave the EU with no agreement about the divorce process** (term used for the UK's separation from the EU), **leave the single market and customs union arrangements** overnight.
        - The UK will have to **immediately leave EU institutes** and other bodies like the European Court of Justice and Europol, its law enforcement body and will **no longer contribute to the EU budget.**
    - Without a trade deal, **cross-Channel trade will revert to WTO rules,** with **tariffs driving up prices and generating paperwork** for importers and **border checks and taxes will be introduced for goods travelling** between the UK and the EU.
    - It would have a far-reaching impact on the way business and trade is conducted in Europe and could **spoil the relations between the UK and the EU.**

Way Forward

- There is a soft Brexit and there is a hard Brexit but the UK needs to find a way for a semi-soft Brexit so that people do not bear the sudden shock of leaving the EU at once.
- The EU's core idea is that the member nations are stronger together and pooling the resources and initiatives is the best way of achieving common goals. Even if the UK has moved out of the EU, it will continue to move forward as a bloc of the 27 countries. Meanwhile, other nations of the world will have to accommodate themselves according to the shifting balance of power and politics.

Israel-Bhutan Ties

Why in News

Recently, **Israel** has established **diplomatic ties** with **Bhutan.**

The development comes two days after **Israel and Morocco agreed to normalize** ties in a deal brokered with assistance from the USA.

Morocco became the **fourth Arab country**, after the **UAE, Bahrain** (Abraham Accords) and **Sudan**, to set aside hostilities with Israel in the past four months.

Key Points

- **Historical Background:**
  - Israel has supported Bhutanese human resource development **since 1982,** especially in the area of **agriculture development that has benefited hundreds of Bhutanese youths.**
  - Both the countries maintained a **cordial relation** despite a lack of formal ties.
  - Israel briefly had a **non-resident ambassador** to Bhutan in **2010.**
  - Israel's Agency for **International Development Cooperation MASHAV has trained hundreds of Bhutanese youth since 2013.**
- **Recent Development:**
  - The two nations established a formal diplomatic relation and agreed to work closely together in various sectors.
  - The two sides will **not be setting up embassies** in Thimphu and Tel Aviv however, and will **coordinate through their missions in Delhi.**
- **Significance:**
  - The establishment of diplomatic relations would create new avenues for cooperation between the two countries in **water management, technology, human resource development, agricultural sciences** and other areas of mutual benefit.
  - As for **tourism,** Bhutan that limits the number of outsiders who can enter will now likely be more open to Israelis.
  - The ties between the peoples through cultural exchanges and tourism would also be further enhanced.

- **Bhutan's Foreign Relations:**
  - **India's Role:** Bhutan's foreign relations till date are **mostly under the guidance of India,** with which Bhutan had official diplomatic relations from **1949.**
    - The basis for bilateral relations between India and Bhutan was formed by the **Indo-Bhutan Treaty of Peace and Friendship of 1949.**
    - However, **Article 2** of the treaty critically gave India a role in guiding Bhutan's foreign policy. Hence, some alterations were made in the treaty in 2007. As per the new treaty, **Bhutan can import arms as long as Indian interests are not harmed and there is no re-export of the weapons, either by the government or individuals.**
  - It became a member of the **United Nations (UN)** in 1971.
    However it does not have diplomatic ties with any of the **five permanent members** of the **UN security council.**
  - Until **2007** it had formal relations with just **22 countries** in the world but after their **2008 elections,** the Bhutanese government **rapidly increased its diplomatic relations,** signing agreements with **31 countries in five years.**
  - Bhutan has diplomatic relations with some **53 countries** and the **European Union.**
    Recently, Bhutan established diplomatic relations with **Germany.**

Source:IE

Mucormycosis Fungal Infection

Why in News

Recently, doctors have witnessed increased cases of **Covid-19 triggered Mucormycosis.**

The **reduced immunity** of Covid-19 patients **makes them more susceptible** to this **fungal infection.**

Key Points

- **Mucormycosis** is also called **Black Fungus** or **Zygomycosis** and is a **serious but rare fungal infection** caused by a **group of molds called mucormycetes.**

- **Types of Mucormycosis:**
  - **Rhinocerebral (Sinus and Brain) Mucormycosis:** It is an infection in the sinuses that can spread to the brain. It is the most common in people with uncontrolled diabetes and in people who have had a kidney transplant.
  - **Pulmonary (Lung) Mucormycosis:** It is the most common type of mucormycosis in people with cancer and in people who have had an organ transplant or a stem cell transplant.
  - **Gastrointestinal Mucormycosis:** It is more common among young children than adults, especially premature and low birth weight infants less than 1 month of age, who have had antibiotics, surgery, or medications that lower the body's ability to fight germs and sickness.
  - **Cutaneous (Skin) Mucormycosis:** It occurs after the fungi enter the body through a break in the skin (for example, after surgery, a burn, or other types of skin trauma). It is most common among people who do not have weakened immune systems.
  - **Disseminated Mucormycosis:** It occurs when the infection spreads through the bloodstream to affect another part of the body. The infection most commonly affects the brain, but also can affect other organs such as the spleen, heart, and skin.
- **Transmission:**
  - It occurs through **inhalation, inoculation, or ingestion of spores** from the environment.
    - For example, the lung or sinus forms of the infection can occur after someone inhales the spores from the air.
  - Mucormycosis **does not spread between people or between people and animals.**
  - It **usually occurs in people who have health problems or take medicines** that lower the body's ability to fight germs and sickness.
- **Symptoms:**
  - General symptoms are **one-sided facial swelling and numbness, headache, nasal or sinus congestion, black lesions** on nasal bridge or upper inside of the mouth, **fever, abdominal pain, nausea** and **gastrointestinal bleeding.**
  - Disseminated mucormycosis typically occurs in people who are already sick from other medical conditions, so it can be **difficult to know which symptoms are related to mucormycosis.** Patients with disseminated infection in the brain can develop **mental status changes or coma.**
- **Diagnosis and Testing:**
  - Healthcare providers **consider medical history, symptoms, physical examinations, and laboratory tests** when diagnosing mucormycosis.
  - If suspected of the infection, healthcare providers collect a **sample of fluid from the respiratory system** or may **perform a tissue biopsy.**
    - In tissue biopsy, a small sample of affected tissue is analysed in a laboratory for evidence of mucormycosis under a microscope or in a fungal culture.

- **Treatment:**
  - It needs to be treated with **prescription antifungal medicine** to prevent mucormycosis and other mold infections.
  - Often, mucormycosis **requires surgery to cut away the infected tissue.**
- **Prevention and Cure:**
  - There is **no vaccine to prevent** mucormycosis and it is **difficult to avoid breathing in fungal spores** because the **fungi are common in the environment.**
  - For people who have weakened immune systems, there may be some **ways to lower the chances of developing mucormycosis.**
    - These include **avoiding areas with a lot of dust** like construction or excavation sites, avoiding direct contact with water-damaged buildings and flood water after hurricanes and natural disasters and **avoiding activities that involve close contact to soil.**
  - **Early detection** can prevent loss of eyesight, nose or jaw through clinical intervention.

Mucormycetes
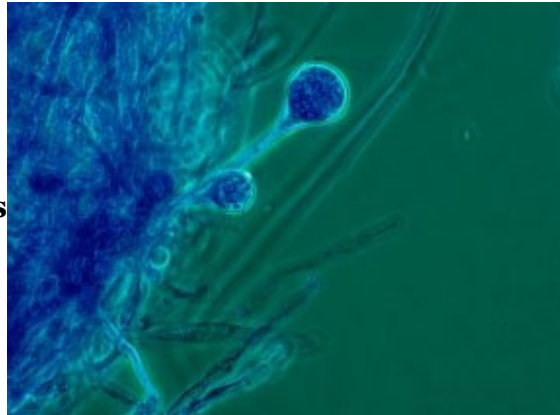
- Mucormycetes, the **group of fungi that cause mucormycosis,** are **present throughout the environment,** particularly in soil and in association with decaying organic matter, such as leaves, compost piles, and animal dung.
  - Several different types of fungi can cause mucormycosis and belong to the **scientific order _Mucorales_.**
  - The most common types that cause mucormycosis are _**Rhizopus species**_ and _**Mucor species.**_
- They are **more common in soil than in air,** and **in summer and fall than in winter or spring.**
- These fungi are **not harmful to most people but for people who have weakened immune systems,** breathing in micromycetes spores can cause an infection.

Source: IE

San Isidro Movement (MSI): Cuba

Why in News

The **Movimiento San Isidro** started two years ago and has now become a **platform for Cuban dissidents both within and outside the nation.**

Key Points

- **Background:**
  - The Movimiento San Isidro, or the San Isidro Movement (MSI), started **two years ago (2018)** to protest **state censorship of artistic work through Decree 349.**
    - Decree 349 is a law that would have given powers to the Cuba's Government to restrict **cultural activity** it did not approve of.
  - To protest against the decree, artists, poets, journalists and activists gathered in San Isidro, **a Black-majority locality** that is among **Havana's poorest yet most culturally active regions.**
- **Current Spark:**
  - A member of the MSI, **Afro-Cuban rapper Denis Solís, was arrested by the police.** This led to widespread protests and strikes.
- **Global View:**
  - Various **National government and International human rights organisations** such as **Amnesty International** have raised concern for human rights in Cuba.
  - Cuban diaspora in many countries continue to hold rallies **in support of the movement.**
- **The Cuban Government Stand:**
  - The Cuban government alleges that the movement is **funded by USA** and are being used to **subvert the state.**

India Cuba Relations

- India shares **close, warm and historical relations with Cuba** and both countries are **founding members of the Non-Aligned Movement.**
- In 1959, the Cuban-Argentinean guerrilla commander Ernesto Che Guevara paid a diplomatic visit to India and was welcomed by the then Prime Minister Pt. Jawaharlal Nehru.
- In 2019, **India supported the resolutions** in the **UN General Assembly** calling for lifting of **US sanctions against Cuba.**
- India and Cuba agreed to collaborate in the areas of **Biotechnology, Homeopathy and the traditional system of medicine** during the visit of the President of India to Cuba in 2019.

Source:IE